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09/890,779	06/10/2002	Wolfgang Werr	A34537-PCT-USA	7972

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EXAMINER

COLLINS, CYNTHIA E

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,779

Applicant(s)

WERR, WOLFGANG

Examiner

Cynthia Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 3,6-8,10,11 and 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,9 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/01,9/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-2, 4-5, 9 and 12, drawn to a chimeric DNA construct comprising at least one repressor sequence domain of the *Drosophila* engrailed gene in transcriptional fusion with at least one plant-specific sequence that codes for a protein or fragment thereof that binds to DNA or that that activates transcription by binding to DNA itself, wherein said plant-specific sequence codes for at least a DNA-binding domain of a plant STM transcription factor, and to a method for obtaining a transgenic plant by using said DNA construct, in the reply filed on October 1, 2004 is acknowledged.

The traversal is on the ground(s) that unity of invention was found during the international phase of this application.

This is not found persuasive because the failure to find lack of unity during the international phase of the application does not preclude such a finding in the national stage application.

The traversal is also on the ground(s) that, as set forth in MPEP 1850 (13.4), it shall be permitted to include in the same international application a reasonable number of dependent claims, claiming specific forms of the invention claimed in an independent claim, even where the features of any dependent claim could be considered as constituting in themselves an invention.

This is not found persuasive because while it shall be permitted to include in the same international application a reasonable number of dependent claims, such inclusion is not mandated. In the instant case the inclusion of the additional groups of invention is not reasonable

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because it would impose an undue search burden on the office, due to the necessity to search numerous additional structurally and functionally distinct chimeric DNA constructs.

The traversal is additionally on the ground(s) the presently pending claims are neither anticipated or rendered obvious over WO 96/01313, as the instant invention, as described and claimed, is distinct in several ways from the invention described and claimed in WO 96/01313.

This is not found persuasive because the outstanding restriction requirement was based on the instant invention as claimed, not on the instant invention as described in the specification. Further, WO 96/01313 was not cited in the outstanding restriction requirement as anticipating or rendering obvious the claimed invention. WO 96/01313 was cited as anticipating or rendering obvious the technical feature linking the inventions of Groups I-CCLVI. Additionally, as set forth below under Claim Rejections - 35 USC § 102, Bujard et al. (U.S. Patent No. 6,242,667 B1, issued June 5, 2001, filed September 28, 1998) anticipates claims 1, 2, 4, 9 and 12 under 35 U.S.C. 102(e), and thus also anticipates the technical feature linking the inventions of Groups I-CCLVI.

Claims 3, 6-8, 10-11 and 13-16, and the nonelected subject matter, are withdrawn from consideration as being directed to nonelected inventions.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

Initialed and dated copies of Applicant's IDS forms 1449, filed September 29, 2003 and September 24, 2001 are attached to the instant Office action.

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Claim Objections

Claims 1, 3 and 5 are objected to because of the following informalities: they are directed in part to nonelected inventions. Appropriate correction is required.

Claim 5 is objected to because of the following informalities: the meaning of the acronym "STM" is not recited. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 4, 5, 9 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to a chimeric DNA construct comprising at least one repressor sequence, including the repressor domain of the *Drosophila* engrailed gene (eng), in transcriptional fusion with at least one plant-specific sequence that codes for a protein or fragment thereof that binds to DNA or that activates transcription by binding to DNA itself, including a sequence that codes for at least a DNA-binding domain of a plant transcription factor including an STM transcription factor; said repressor sequence being operably linked to elements allowing the transcription of said fused sequences, including a constitutive promoter.

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The specification describes a chimeric DNA construct comprising a single copy of a single type of a repressor sequence, a repressor sequence that encodes the repressor domain of the *Drosophila* engrailed protein, in transcriptional fusion with a single copy of a single type of plant-specific sequence, a plant-specific sequence that codes for a plant transcription factor, including the *Arabidopsis* SHOOTMERISTEMLESS (STM) transcription factor; said repressor sequence being operably linked to a constitutive CaMV 35S promoter (pages 15-24).

The specification does not describe chimeric DNA constructs comprising repressor sequences other than the repressor domain of the *Drosophila* engrailed gene (eng), or chimeric DNA constructs comprising plant-specific sequences that code for a DNA-binding proteins other than plant transcription factor proteins. The specification also does not describe chimeric DNA constructs comprising multiple copies of more than one type of a repressor sequence in transcriptional fusion with multiple copies of more than one type of plant-specific sequence that codes for a DNA-binding protein.

The Federal Circuit has recently clarified the application of the written description requirement for DNA sequences. The court stated that “A description of a genus of cDNAs may be achieved by means of recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to members of the genus, which features constitute a substantial portion of the genus.” See *University of California v. Eli Lilly and Co.*, 119 F.3d 1559, 1569; 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

In the instant case Applicant has not described a representative number of species falling within the scope of the claimed genus which encompasses numerous chimeric DNA constructs

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comprising various types and numbers of repressor sequences and plant-specific sequences, nor the structural features unique to the genus.

Claims 1, 2, 4, 5, 9 and 12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a chimeric DNA construct comprising a single copy of a single type of a repressor sequence, a repressor sequence that encodes the repressor domain of the *Drosophila* engrailed protein, in transcriptional fusion with a single copy of a single type of plant-specific sequence, a plant-specific sequence that codes for a plant transcription factor, does not reasonably provide enablement for other types of chimeric DNA constructs. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claims are broadly drawn to a chimeric DNA construct comprising at least one repressor sequence, including the repressor domain of the *Drosophila* engrailed gene (*eng*), in transcriptional fusion with at least one plant-specific sequence that codes for a protein or fragment thereof that binds to DNA or that activates transcription by binding to DNA itself, including a sequence that codes for at least a DNA-binding domain of a plant transcription factor including an STM transcription factor; said repressor sequence being operably linked to elements allowing the transcription of said fused sequences, including a constitutive promoter. The claims are also drawn to a method of making a transgenic plant by transferring into a plant cell and expressing said DNA construct.

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The specification discloses how to make a chimeric DNA construct comprising a single copy of a single type of a repressor sequence, a repressor sequence that encodes the repressor domain of the *Drosophila* engrailed protein, in transcriptional fusion with a single copy of a single type of plant-specific sequence, a plant-specific sequence that codes for a plant transcription factor, including the *Arabidopsis* SHOOTMERISTEMLESS (STM) transcription factor, and how to use said chimeric DNA construct to transform plants (pages 15-24).

The specification does not disclose how to make and use chimeric DNA constructs comprising repressor sequences other than the repressor domain of the *Drosophila* engrailed gene (*eng*), or chimeric DNA constructs comprising plant-specific sequences that code for a DNA-binding proteins other than plant transcription factor proteins. The specification also does not describe how to make and use chimeric DNA constructs comprising multiple copies of more than one type of a repressor sequence in transcriptional fusion with multiple copies of more than one type of plant-specific sequence that codes for a DNA-binding protein.

The full scope of the claimed invention is not enabled because using repressor sequences other than the repressor domain of the *Drosophila* engrailed gene (*eng*) in plants is unpredictable, as not all repressor sequences would be expected to function in plant cells.

See, for example, Segal et al. (Zinc fingers and a green thumb: manipulating gene expression in plants. *Curr Opin Plant Biol.* 2003 Apr;6(2):163-8. Review), teaching that activation and repression domains that are components of naturally occurring transcription factors that function in one cell type may not function in a different cell type, or in a different species, due to the absence of proteins required for the specific protein-protein interactions that effect activation and repression domain function (page 165 column 1 first full paragraph).

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The full scope of the claimed invention is also not enabled because using plant-specific sequences encoding DNA-binding proteins other than transcription factors is unpredictable, as different types of DNA binding proteins mediate different effects.

See, for example, Zhang D.L. et al. (A plant DNA-binding protein that recognizes 5-methylcytosine residues. *Mol Cell Biol.* 1989 Mar;9(3):1351-6), who teach that a DNA-binding protein obtained from pea recognizes 5-methylcytosine residues in DNA with little DNA sequence specificity, as compared to a mammalian DNA-binding protein which recognizes 5-methylcytosine residues in DNA in a specific family of 14 base pair sequences.

The full scope of the claimed invention is additionally not enabled because the effect of using chimeric DNA constructs comprising multiple copies of more than one type of a repressor sequence in transcriptional fusion with multiple copies of more than one type of plant-specific sequence that codes for a DNA-binding protein is unpredictable, as different types of repressor sequences and DNA binding proteins have different functional requirements and different effects.

With respect to repressor sequences, see for example Segal et al. discussed above. With respect to plant-specific sequences that codes for DNA-binding proteins, see, for example, Riechmann J.L. et al. (DNA-binding properties of *Arabidopsis* MADS domain homeotic proteins APETALA1, APETALA3, PISTILLATA and AGAMOUS. *Nucleic Acids Res.* 1996 Aug 15;24(16):3134-41, Applicant's IDS), who teach that four different MADS domain homeotic proteins (AP1, AP3, PI and AG), which function to specify the development of different organ types in the *Arabidopsis* flower, are all capable of recognizing the same DNA-binding sites albeit with somewhat different affinities. Riechmann J.L. et al. further teach that the similarities of the

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DNA binding activities of these proteins suggests that their biological specificity may not be explained on the basis of their intrinsic DNA-binding specificity alone, and that it is likely that at least part of their biological specificity is achieved thorough selective interactions with additional proteins (pages 3134 and 3141).

In the instant case the specification does not provide sufficient guidance with respect to how to use repressor sequences other than the repressor domain of the *Drosophila* engrailed gene (eng) in plants, how to use plant-specific sequences encoding DNA-binding proteins other than transcription factors, and how to use chimeric DNA constructs comprising multiple copies of more than one type of a repressor sequence in transcriptional fusion with multiple copies of more than one type of plant-specific sequence, in order to achieve a desired effect. Absent such guidance one skilled in the art would have to design and test numerous different combinations of repressor sequences and plant-specific sequences encoding DNA-binding proteins in order to discriminate between those chimeric DNA constructs that would produce a desired effect in plants transformed therewith and those that would not. Such a trial and error approach to practicing the claimed invention would constitute undue experimentation.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite in the recitation of "at least one". It is unclear how many

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repressor sequences and how many plant-specific sequences the chimeric DNA construct comprises, as a chimeric DNA construct would comprise a finite number of sequences.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite in the recitation of “repressor sequence”. It is unclear what is repressed by the sequence.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite in the recitation of “plant-specific sequence”. It is unclear what would make a sequence plant-specific, e.g. is the sequence obtained from plants? Is the sequence functional in plants? Is the sequence functional in plants exclusively? It is also unclear what type of protein is encoded by the sequence, as many structurally and functionally distinct types of proteins bind DNA.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite in the recitation of “elements allowing the transcription of said fused sequences”. It is unclear whether or not the claim requires the function of transcription to occur.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 is indefinite in the recitation of “at least”. It is unclear what the repressor sequence would comprise in addition to the repressor domain of the *Drosophila* engrailed gene.

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Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 is indefinite in the recitation of “at least”. It is unclear what the plant-specific sequence would comprise in addition to the DNA-binding domain of a plant transcription factor.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 is indefinite in the recitation of “allowing the transcription of said repressor sequence”. It is unclear whether or not the claim requires the function of transcription to occur.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 is indefinite in reciting that “the elements” comprise “a constitutive promoter”. While a single promoter may comprise multiple elements, multiple elements would not comprise a single promoter.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 is indefinite in the recitation of “is cultured under conditions for regenerating a whole transgenic plant”. It is unclear whether or not the claim requires the regeneration of a whole transgenic plant to occur. Claim 12 additionally does not result in a transgenic plant being obtained as recited in the preamble of the claim.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 9 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Bujard et al. (U.S. Patent No. 6,242,667 B1, issued June 5, 2001, filed September 28, 1998).

The claims are drawn to a chimeric DNA construct comprising at least one repressor sequence, including the repressor domain of the *Drosophila* engrailed gene (*eng*), in transcriptional fusion with at least one plant-specific sequence that codes for a protein or fragment thereof that binds to DNA, including a DNA-binding domain of a plant transcription factor; said repressor sequence being operably linked to elements allowing the transcription of said fused sequences, including a constitutive promoter. The claims are also drawn to a method of making a transgenic plant by transferring into a plant cell and expressing said DNA construct.

Bujard et al. teach a chimeric DNA construct comprising a repressor sequence encoding the repressor domain of the *Drosophila* engrailed gene operatively linked to a sequence that codes for a Tet repressor protein that binds to DNA, said repressor sequence being operatively linked to transcriptional regulatory elements functional in plant cells (columns 90-92, claims 3, 4, 5, 6, 11). The sequence that codes for a Tet repressor protein is a plant-specific sequence that codes for a protein or fragment thereof that binds to DNA, and a plant-specific sequence that

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codes for a DNA-binding domain of a plant transcription factor, because the sequence and its encoded transcription factor protein are functional in plants. Bujard et al. also teach the use of constitutive promoters (column 11 lines 37-65), and transgenic plants and plant cells comprising and expressing said DNA construct (column 2 lines 25-33; column 13 lines 54-49; column 15 lines 47-56; column 35 line 64 through column 36 line 14; columns 90-92, claims 3, 4, 5, 6, 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conlon F. et al.

(Inhibition of Xbra transcription activation causes defects in mesodermal patterning and reveals autoregulation of Xbra in dorsal mesoderm. Development. 1996 Aug;122(8):2427-35) in view of Bujard et al. (U.S. Patent No. 6,242,667 B1, issued June 5, 2001, filed September 28, 1998) and Long J. et al. (A member of the KNOTTED class of homeodomain proteins encoded by the STM gene of *Arabidopsis*. Nature. 1996 Jan 4;379(6560):66-9).

The claims are drawn to a chimeric DNA construct comprising at least one repressor sequence in transcriptional fusion with at least one plant-specific sequence, including a sequence that codes for at least a DNA-binding domain of a plant transcription factor including an STM transcription factor, that codes for a protein or fragment thereof that binds to DNA or that

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activates transcription by binding to DNA itself; said repressor sequence being operably linked to elements allowing the transcription of said fused sequences.

Conlon F. et al. teach a chimeric DNA construct comprising a repressor sequence encoding the repressor domain of the *Drosophila* engrailed gene operatively linked to a sequence that codes for a DNA-binding domain of the *Xenopus* Xbra transcription factor that codes for a protein or fragment thereof that binds to DNA or that activates transcription by binding to DNA itself; said repressor sequence being operably linked to elements allowing the transcription of said fused sequences (page 2431 Figure 4). Conlon F. et al. also teach that microinjection of *Xenopus* embryos with RNA encoding the engrailed/Xbra fusion protein inhibits Xbra activated transcription, and produced a *Xenopus* embryo phenotype like that exhibited by mouse and zebrafish embryos having genetic mutations in the Xbra homologue *Brachyury* (page 2430 column 1 through page 2431 column 1 first paragraph and Figures 3 and 5; page 2432 Figures 6 and 7). Conlon F. et al. further teach that their strategy of fusing the DNA binding domain of a transcription factor to the active repressor domain of the engrailed protein to analyze transcription factor function should be readily applicable to other transcription factors (page 2427 abstract; page 2434 column 2 last paragraph)

Conlon F. et al. do not teach a chimeric DNA construct comprising a repressor sequence in transcriptional fusion with a sequence that codes for a DNA-binding domain of a transcription factor obtained from plants, such as STM, or the use of a chimeric DNA construct in plants.

The teachings of Bujard et al. with respect to the use in plants of chimeric DNA constructs comprising sequences encoding transcription factor DNA-binding domain/repressor domain protein fusions are set forth above in the rejection under 35 USC 102.

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Long et al. teach that *Arabidopsis* plants having recessive mutations in the SHOOTLESSMERISTEM (STM) locus fail to develop a shoot apical meristem, and that the STM locus encodes an *Arabidopsis* homologue of the maize homeobox transcription factor protein KNOTTED (page 6 column 1 first paragraph; page 67 Figure 2).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use the DNA binding domain of any transcription factor of interest, including a plant transcription factor such as SHOOTLESSMERISTEM (STM), in a transcription factor DNA-binding domain/repressor domain protein fusions chimeric DNA construct. One of ordinary skill in the art would have been motivated to do so in order to further analyze the function of the transcription factor in vivo. One of ordinary skill in the art would have had a reasonable expectation of success, given the success of Bujard et al. in using transcription factor DNA-binding domain/repressor domain protein fusions chimeric DNA constructs in plants, and given the success of Conlon F. et al. in using transcription factor DNA-binding domain/repressor domain protein fusions chimeric DNA constructs in animals. Thus, the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time the invention was made.

Remarks

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cynthia Collins
Examiner
Art Unit 1638

CC

Cynthia Collins 12/16/04